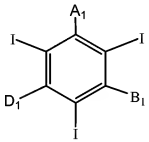
AMENDMENTS TO THE CLAIMS

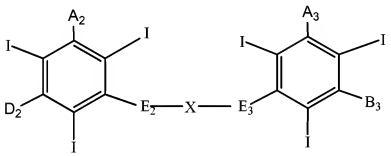
This listing of claims will replace all prior versions, and listings, of claims in the application.

What is claimed is:

1. (Currently Amended) An injectable radiological composition for x-ray visualization during radiological examinations, the composition comprising a pharmaceutically acceptable vehicle and a mixture of at least one monomer and at least one dimer, the monomer corresponding to Formula I and the dimer corresponding to Formula II



Formula (I)



Formula (II)

wherein, with regard to Formula I:

A_1[,] and B_1, ~~and D_1~~ are ~~independently~~ -CON(R_3)R_1; ~~or~~

D_1 is -N(R)C(O)R_2;

~~A_2, A_3, B_3, and D_2 are independently -CON(R)R_1 or -N(R)C(O)R_2, provided, however, at least one of A_2 and A_3 is -$CONH_2$;~~

~~E_2 and E_3 are independently selected from the group consisting of -CON(R)-, -N(R)C(O)- and -N(COR_2)-;~~

each R and R_2 is independently H, or a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof~~, or a member of a (C_3 - C_7) cyclic residue, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4-, and/or optionally substituted with one or more hydroxy, alkoxy or~~

~~hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R, the nitrogen atom to which it is bonded and another moiety, that moiety being (i) -C(O)R_2 when A_1, A_2, A_3, B_1, B_3, D_1 or D_2 is -N(R)C(O)R_2 or (ii) R_1 when A_2, A_3, B_3, or D_2 is -CON(R)R_1;~~

each R_1 is independently (i) hydrogen, or (ii) a linear or branched (C_1-C_8) alkyl residue, optionally substituted with one or more hydroxy, alkoxy, hydroxyalkoxy groups or combinations thereof ~~or by -NRC(O)R_4 or -C(O)N(R)R_4, (iii) the residue of a carbohydrate, or (iv) a member of a (C_3 - C_7) cyclic residue, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R_4, the nitrogen atom to which it is bonded and another moiety, that moiety being (a) R when A_2, A_3, B_3, or D_2 is -CON(R)R_4 or (ii) R_3 when A_1, B_1, and D_1 is -CON(R_3)R_4~~;

~~each R_2 is independently (i) a linear or branched (C_1 - C_8) alkyl residue, optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups, or combinations thereof or (ii) a member of a (C_3 - C_7) cyclic residue, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4- and/or optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof, the cyclic residue comprising R_2, R, the nitrogen atom to which R is bonded and the carbonyl moiety to which R_2 is bonded;~~

each R_3 is independently linear or branched (C_1-C_8) alkyl residue, optionally substituted with one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof~~, or taken together with R_4 and the nitrogen atom to which R_3 and R_4 are bonded, form a (C_3 - C_7) cyclic residue, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof~~;

~~each R_4 is independently hydrogen or a linear or branched (C_1 - C_6) alkyl residue, optionally substituted with one or more hydroxy, alkoxy, hydroxyalkoxy groups or combinations thereof; and~~

~~X is a bond or a linear or branched (C_1 - C_8) alkylene chain which is optionally substituted by up to six hydroxy groups, said alkylene chain being optionally interrupted by -O-, -S-, -NR_4- or -N(R)C(O)- groups.~~

and wherein with regard to Formula II:

A_2 and A_3 are -$CONH_2$;

B_3 and D_2 are -CON(R)R_1;

E_2 and E_3 are independently selected from the group consisting of -CON(R)-, -N(R)C(O)- and -N(COR_2)-;

each R is independently H, or a linear or branched (C_1-C_8) alkyl residue, optionally

substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_1 is independently (i) hydrogen, (ii) a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof, or (iii) the residue of a carbohydrate;

or R and R_1 are each members of a (C_3-C_7) cyclic residue further comprising the nitrogen atom to which each of R and R_1 is bonded, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_2 is independently a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_4 is independently hydrogen or a linear branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof; and

X is a bond or a linear or branched (C_1-C_8) alkylene chain which is optionally substituted by up to six hydroxyl groups, said alkylene chain being optionally interrupted by -O-, -S-, -NR_4- or -N(R)C(O)- groups.

2. (Currently Amended) The composition of claim 1 wherein ~~A_2 and A_3 are independently -C(O)NH_2~~ with regard to Formula I, R_1 is H or methyl.

3. (Original) The composition of claim 1 wherein X is methylene.

4. (Currently Amended) The composition of claim 1 wherein ~~A_1 and B_1 are -C(O)N(R_3)R_1, and each R_3 and R_1 of A_1 and B_1 are as defined in claim 1~~ with regard to Formula I:

A_1 and B_1 are -CON(R_3)R_1;

D_1 is -N(R)C(O)R_2;

each R and R_2 is independently H, methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, 2-methoxyethyl, 1-methoxy-2-hydroxypropyl or dihydroxypropyl;

each R_1 is independently H or methyl;

each R_3 is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl or dihydroxypropyl;

and wherein with regard to Formula II:

A_2 and A_3 are -$CONH_2$;

B_3 and D_2 are -CON(R)R_1;

E_2 and E_3 are independently selected from the group consisting of -CON(R)-, -N(R)C(O)- and -N(COR_2)-;

each R is independently H, or a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_1 is independently (i) hydrogen, (ii) a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof or by -NRC(O)R_1 or -C(O)N(R)R_1, or (iii) the residue of a carbohydrate;

or R and R_1 are each members of a (C_3-C_7) cyclic residue further comprising the nitrogen atom to which each of R and R_1 is bonded, said cyclic residue being optionally interrupted by -O-, -S- or -NR_4-, and/or optionally substituted by one or more hydroxy, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_2 is independently a linear or branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof;

each R_4 is independently hydrogen or a linear branched (C_1-C_8) alkyl residue, optionally substituted by one or more hydroxyl, alkoxy or hydroxyalkoxy groups or combinations thereof; and

X is a bond or a linear or branched (C_1-C_8) alkylene chain which is optionally substituted by up to six hydroxyl groups, said alkylene chain being optionally interrupted by -O-, -S-, -NR_4- or -N(R)C(O)- groups.

5. (Cancelled)

6. (Currently Amended) The composition of claim 1 wherein A_1 and B_1 are -CONHR_3 ~~wherein each R_3 of A_1 and B_1 is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl~~.

7. (Cancelled)

8. (Withdrawn – Currently Amended) The composition of claim 1 ~~wherein A_1 and B_1 are -CONR_1R_3~~ wherein each R_1 and R_3 of A_1 and B_1 is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.

9. (Cancelled)

10. (Currently Amended) The composition of claim 1 wherein ~~D_1 is -N(R)C(O)R_2, and~~ the R and R_2 substituents of D_1 are independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, 1-methoxy-2-hydroxypropyl, or dihydroxypropyl.

11. (Currently Amended) The composition of claim 10 wherein A_1 and B_1 are -CONHR_3 ~~wherein each R_3 of A_1 and B_1 is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl~~.

12. (Withdrawn – Currently Amended) The composition of claim 10 wherein ~~A_1 and B_1 are -CONHR_3 wherein~~ each R_1 and R_3 of A_1 and B_1 is independently methyl, hydroxymethyl, ethyl, hydroxyethyl, propyl, hydroxypropyl, or dihydroxypropyl.

13. (Currently Amended) The composition of claim ~~2~~ 1 wherein ~~at least one of A_1, B_1 and D_1 is -CONHR_3 wherein~~ R_1 is hydrogen.

14. (Currently Amended) The composition of claim ~~2~~ 1 wherein ~~one of A_1, B_1 and D_1 is -N(R)C(O)R_2 and R and R_2 are as defined in claim 1~~ B_3 and D_2 are -CONHR.

15. (Original) The composition of claim 1 wherein the monomer is selected from the group consisting of iomeprol, iopromide, ioversol, iohexol, iopentol, iopamidol and iobitridol.

16. (Original) The composition of claim 1 wherein the dimer is iosmin.

17. (Original) The composition of claim 1 wherein the monomer is selected from the group consisting of ioversol, iohexol, and iopamidol, and the dimer is iosmin.

18. (Original) The composition of claim 1 wherein the monomer is ioversol and the dimer is iosmin.

19. (Original) The composition of claim 1 wherein the composition further comprises pharmaceutically acceptable radiological vehicles selected from the group consisting of aqueous buffer solutions, sterile water for injection, physiologic saline, balanced ionic solutions, a chelating agent, and other non-radioactive additives comprising excipients and anticlotting

agents.

20. (Original) The composition of claim 19 wherein said aqueous buffer solutions comprise tris(hydroxyethyl)amino methane and salts thereof, phosphate, citrate and bicarbonates; wherein said balanced ionic solutions comprise chlorides and bicarbonates of cations selected from the group consisting of Ca, Na, K, and Mg, and other halides, carbonates, sulphates, phosphates of Na, K, Mg and Ca; wherein said chelating agents consist of H_4EDTA, $EDTACaNa_2$ and calcium monosodium DTPA-BMEA; wherein said excipient is glycerol, polyethylene glycol or dextran; and wherein said anticlotting agent is heparin or hirudin.

21. (Withdrawn) The composition of claim 1 wherein the composition further comprises a contrast agent other than the monomer and the dimer.

22. (Withdrawn) The composition of claim 21 wherein said other contrast agent is selected from the group consisting of other X-ray contrast agents, magnetic resonance imaging agents, radionuclide imaging agents, ultrasound imaging agents and optical imaging agents.

23. (Withdrawn) A method of diagnostic imaging, the method comprising administering to an individual a composition of claim 1, and carrying out an imaging procedure on such individual.

24. (Withdrawn) The method of claim 23 wherein said composition comprises a monomer selected from the group consisting of ioversol, iohexol and iopamidol, and the dimer is iosimenol.

25. (Withdrawn) The method of claim 23 wherein said composition comprises a mixture of ioversol, and iosimenol.

26. (Withdrawn) A method of diagnostic imaging, the method comprising administering to an individual a composition of claim 22, and carrying out an imaging procedure on such individual.